SANTA CRUZ BIOTECHNOLOGY, INC.

IQGAP1 (C-9): sc-376021

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IQGAP1, for IQ motif containing GTPase activating protein, is a Ras GAP-related, Actin-binding protein that interacts with the small GTPases Cdc42 and Rac1. The C-terminus of IQGAP1 is essential for interacting with Cdc42 and, in addition, IQGAP1 contains a WW domain and a predicted N-terminal coiled-coil region, which may be involved in IQGAP dimerization. Expression of IQGAP1 is highest in placenta, lung and kidney, where it co-localizes with Cdc42 to the cytoskeleton and assists with Cdc42 in mediating the regulation of cell proliferation, polarity and cell morphology. IQGAP1 regulates cadherin-mediated cell adhesion via binding to E-cadherin, β-catenin and α-catenin. This association induces the accumulation of these proteins at the site of cell-cell contact. IQGAP1 is negatively regulated by calmodulin, which binds to IQGAP1 in a calcium-dependent manner and disrupts IQGAP1 from associating with Cdc42.

REFERENCES

1. Weissbach, L., et al. 1994. Identification of a human Ras GAP-related protein containing calmodulin-binding motifs. J. Biol. Chem. 269: 20517-20521.
2. Kuroda, S., et al. 1996. Identification of IQGAP as a putative target for the small GTPases, Cdc42, and Rac 1. J. Biol. Chem. 271: 23363-23367.

CHROMOSOMAL LOCATION

Genetic locus: IQGAP1 (human) mapping to 15q26.1; Iqgap1 (mouse) mapping to 7 D3.

SOURCE

IQGAP1 (C-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 3-37 near the N-terminus of IQGAP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IQGAP1 (C-9) is available conjugated to agarose (sc-376021 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376021 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376021 PE), fluorescein (sc-376021 FITC), Alexa Fluor® 488 (sc-376021 AF488), Alexa Fluor® 546 (sc-376021 AF546), Alexa Fluor® 594 (sc-376021 AF594) or Alexa Fluor® 647 (sc-376021 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376021 AF680) or Alexa Fluor® 790 (sc-376021 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376021 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

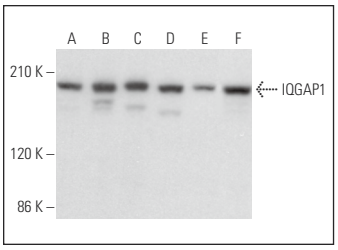
IQGAP1 (C-9) is recommended for detection of IQGAP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). IQGAP1 (C-9) is also recommended for detection of IQGAP1 in additional species, including canine.

Suitable for use as control antibody for IQGAP1 siRNA (h): sc-35700, IQGAP1 siRNA (m): sc-35701, IQGAP1 shRNA Plasmid (h): sc-35700-SH, IQGAP1 shRNA Plasmid (m): sc-35701-SH, IQGAP1 shRNA (h) Lentiviral Particles: sc-35700-V and IQGAP1 shRNA (m) Lentiviral Particles: sc-35701-V.

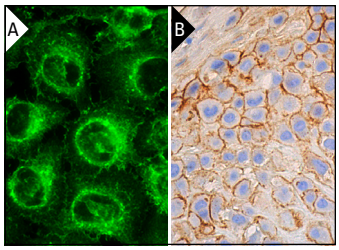
Molecular Weight of IQGAP1: 190 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, RAW 264.7 whole cell lysate: sc-2211 or KNRK whole cell lysate: sc-2214.

DATA



IQGAP1 (C-9): sc-376021. Western blot analysis of IQGAP1 expression in KNRK (**A**), A549 (**B**), NIH/3T3 (**C**), F9 (**D**), RAW 264.7 (**E**) and MDA-MB-231 (**F**) whole cell lysates.



QGAP1 (C-9): sc-376021. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cell junction localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of decidual cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.BC Kit: sc-516216 (**B**).

SELECT PRODUCT CITATIONS

1. Zhao, H., et al. 2014. Coexpression of IQ-domain GTPase-activating protein 1 (IQGAP1) and dishevelled (Dvl) is correlated with poor prognosis in non-small cell lung cancer. PLoS ONE 9: e113713.
2. Akula, M.K., et al. 2019. Protein prenylation restrains innate immunity by inhibiting Rac1 effector interactions. Nat. Commun. 10: 3975.
3. Sheen, Y.S., et al. 2020. Purpuric drug eruptions induced by EGFR tyrosine kinase inhibitors are associated with IQGAP1-mediated increase in vascular permeability. J. Pathol. 250: 452-463.
4. Negretti, N.M., et al. 2021. The *Campylobacter jejuni* CiaD effector co-opts the host cell protein IQGAP1 to promote cell entry. Nat. Commun. 12: 1339.

RESEARCH USE

For research use only, not for use in diagnostic procedures.